

1. (Two Times Amended) A process for treating exhaust gases, the process comprising

a step of providing an aeration stirring tank having a stirring device comprising a motor, a shaft rotatably connected to the motor, and a blade attached to the shaft;

a step of introducing exhaust gases into an aqueous alkaline liquid in said aeration stirring tank while stirring the aqueous alkaline liquid thereby turning the exhaust gases into fine foam by the shear force of the stirring blade to disperse the liquid; and

a step of further removing harmful gases from the gases discharged from the aeration stirring tank.

SUPPORT FOR THE AMENDMENT

This Amendment amends Claim 1. Support for the amendments is found in the specification and claims as originally filed. In particular, support is found in the specification at least at page 10, lines 16-18. No new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 1-5 and 7-10 will be pending in this application. Claims 1 and 8 are independent.

REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the application, as amended, in light of the remarks that follow.

Claims 1-5 and 7-10 are rejected under 35 U.S.C. §103(a) over Applicants' description of the prior art set forth on page 1, line 9 *et seq.* in their specification ("APA") and pages 2-3 in the Gas Purification text ("Kohl") the combination taken together in view of

Japan Pat. Doc. No. 62-125,827A ("JP-827"). Applicants respectfully traverse the rejection because the cited prior art fails to teach or suggest the limitation of independent Claims 1 and 8 of "a blade attached to the shaft" and the Claim 1 limitation of "turning the exhaust gases into fine foam by the shear force of the stirring blade to disperse the liquid".

To establish a *prima facie* case of obviousness, the prior art references when combined must teach or suggest all the claim limitations. MPEP §2143.

The present invention provides a process and an apparatus for treating semiconductor production exhaust gases, characterized in that a higher removal rate of harmful components from exhaust gases is maintained, blocking due to a solid product can be prevented, and the running cost is low. Specification at page 3, lines 12-17. In the present invention, a device capable of obtaining a higher harmful component removal performance is obtained by accelerating the renewal of a gas-liquid interface by finely dividing foam in a liquid by a stirring blade. Specification at page 12, lines 22-25. An aeration stirring tank, which includes the stirring blade as part of a stirring means for stirring an alkaline liquid, disperses a gas in the alkaline liquid by rotating the stirring blade at a high speed in the liquid. Specification at page 9, lines 20-25.

In contrast of the claimed invention, APA and Kohl fail to teach and/or render obvious Applicants' step of passing exhaust through an aeration stirring tank. Final Rejection at page 4, lines 1-3. APA and Kohl fail to suggest the limitation of independent Claims 1 and 8 of "a blade attached to the shaft" and the Claim 1 limitation of "turning the exhaust gases into fine foam by the shear force of the stirring blade to disperse the liquid".

The Final Rejection cites JP-827 to remedy the deficiencies of APA and Kohl. JP-827 discloses bringing BCl_3 into gas-liquid contact with a harm-removing liquid by means of a rotary type fine foam generator (i.e., rotary atomizer 8) immersed in a liquid of water or an

alkali aqueous solution. See, e.g., English-language abstract of JP-827 and JP-827 at Fig. 1. The Final Rejection asserts that Fig. 1 of JP-827 discloses a blade assembly with stirring blades. Final Rejection at page 6, lines 3, 7 and 17.

However, Fig. 1 of JP-827 discloses a rotary atomizer 8 that is, instead of the recited "blade", an inverted cup-shaped rotating member. The bottom of the cup is fixed to the end of the rotating shaft. In Fig. 1 of JP-827, the gas to be treated is introduced into the cup by a gas introducing line, the end of which is placed within the cup. The gas is stored in the cup and then gradually released from the edge of the cup as a fine foam in the liquid in the tank.

JP-827 is a publication of a patent application before examination. After examination, JP-827 was published for opposition as JP 5-80243 ("JP-243"), copy attached. JP-827 was amended during examination by inserting a description of the rotary atomizer (see JP-243 at column 3, line 23 to column 4, line 1). The attached English-language translation of JP-243 column 3, line 23, to column 4, line 1, describes the rotary atomizer as a rotating cup-shaped rotor.

However, JP-243 fails to suggest that the rotary atomizer of JP-243 or of JP-827 includes the recited "blade" attached to a shaft. Furthermore, JP-243 and JP-827 fail to suggest the independent Claim 1 limitation of "turning the exhaust gases into fine foam by the shear force of the stirring blade to disperse the liquid". Thus, JP-827 fails to remedy the deficiencies of APA and Kohl.

Because the cited prior art fails to suggest the limitation of independent Claims 1 and 8 of "a blade attached to the shaft" and the Claim 1 limitation of "turning the exhaust gases into fine foam by the shear force of the stirring blade to disperse the liquid", the cited prior art fails to have rendered obvious to the claimed invention. Therefore, the rejection under 35

U.S.C. §103(a) should be withdrawn. Applicants respectfully request reconsideration of withdrawal of the rejection.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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Attachment:

Marked-up copy of amendments
JP 5-80243

English-language translation of JP 5-80243, column 3, line 23 to column 4, line 1



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